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USE OF ADHESIVE LABELS FOR PRICE-MARKING CASES AT THE GROCERY WAREHOUSE

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PREFACE

Much of the research on which this report is based was conducted by Daniel J. Bartz Associates, Milwaukee, Wis., under a contract with the U.S. Department of Agriculture. Special acknowledgment is due the management of the following wholesale distribution firms for allowing study of their warehouse and office procedures and for arranging for studies in retail stores they supply: Bozzuto's, Inc., Cheshire, Conn.; Elm Farm Foods, Inc., Boston, Mass.; Gateway Grocery Co., LaCrosse, Wis.; M. Loeb Corporation, Chicago Ill.; and Viking Foods, Boston, Mass.

This study was conducted under the general direction of R. W. Hoecker, Chief, Wholesaling and Retailing Research Branch, Transportation and Facilities Research Division, Agricultural Research Service.

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USE OF ADHESIVE LABELS FOR PRICE-MARKING CASES AT THE GROCERY WAREHOUSE

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SUMMARY

Using adhesive labels to price-mark cases at the grocery warehouse costs 0.05 cent per case less than marking cases with a grease pencil in the warehouse and 0.51 cent less than marking cases with a grease pencil at the retail store. The adhesive labels usually contain the same information as the invoice and can be prepared simultaneously with the invoices or separately.

When the adhesive label invoice system is used, the order selector places labels on the grocery cases as he selects them. The time required to attach labels is 0.033 man-minute per case. The assembled order is not checked for accuracy at the warehouse because the adhesive label provides the item description that should match the description on the case. The label cannot be transferred from one case to another without damaging the label or tearing the cardboard on the case. If an error is found at the retail store the evidence is shown on the label. The elimination of warehouse checking results in a labor saving of 0.05 man-minute per case.

The major saving with adhesive labels is made at the retail store. In the typical retail store receiving operation, groceries are received and placed in segregated stacks; one man locates the item to be checked on the invoice, makes a notation that the item has been received, ascertains the correct price, and writes the price on the identification end of the case. With this method of price-marking orders at the retail store, nearly 0.15 man-minute per case is required. When adhesive labels are placed on the case at the warehouse, marking cases with the retail price is not performed.

Based on the best known work methods and an hourly wage of $3 for warehouse employees, $2.40 for retail store employees, and $1.54 per thousand for invoice labels, the cost of labels and attaching them totals 0.32 cent per case. The cost for marking cases with a grease pencil and checking the order at the warehouse totals 0.37 cent per case, and the cost of price-marking cases and checking them at the retail store totals 0.83 cent per case.

Additional advantages with use of adhesive labels include better legibility and accuracy of the suggested retail price; better retail store inventory control when the adhesive labels show the delivery date; and improved control between the warehouse and retail store on incorrectly assembled merchandise. Also, the merchandise for a particular store can be kept together on the warehouse loading dock when store numbers are listed on the labels. If the invoice is run separately from the adhesive labels it is possible for the wholesaler to be more helpful to the retailer by listing items on the invoice by commodity groups rather than by warehouse location.

INTRODUCTION

The retail price of groceries is usually marked on the case with a grease pencil. It may be marked at the wholesale warehouse as the retailer's order is assembled or at the retail store during or after receipt of the order. The price marked on the case is then used to price-mark the items in the case, particularly when merchandise is price-marked in the backroom of the retail store.

A new method of marking cases with the retail selling price in the warehouse has been developed. This method is the adhesive label invoice system, in which a series of adhesive labels is prepared either simultaneously with or separately from the normal machine invoice preparation. The adhesive label contains some of the same information as the invoice: the warehouse location of the item, the item code number, the item description, the suggested retail selling price, and other useful information. As the order selector assembles orders in the warehouse, he removes labels from the invoice carrier sheet and attaches them to the cases.

This study was made in the warehouses of five wholesale distribution firms and in the retail stores they supply to compare the costs and advantages of the adhesive label method of price-marking cases with those of price-marking by grease pencil.

THE ADHESIVE LABEL INVOICE

The adhesive label invoice is designed principally to provide the retailer with the suggested retail selling price on merchandise ordered. The labels are pressure sensitive and affixed to a carrier strip that is wider than the label to permit easy removal of the label. Labels are generally rectangular with rounded corners. The backing can be designed to adhere to paper surfaces, to glass or metal, or to low temperature and moist surfaces. The width of labels used in the firms studied ranged from 3/16 to 7/16 inch and the length from 2 1/16 to 7 inches. It was observed that labels longer than 5 1/2 inches tend to curl and thus create problems for order selectors.

Two of the companies studied printed the invoice with the adhesive label attached in one operation: in one company the adhesive label was superimposed on the invoice, and in the other, the invoice and label were printed at the same time, side by side. In the other companies, the adhesive label was printed separately from the invoice.

Adhesive Label Superimposed on Invoice

Figure 1 shows an invoice and 4-inch-wide labels that are fastened to glassine paper. The labels are placed on top of the invoice when the order is prepared. The invoice is printed on paper that requires no carbon for duplication. The overall invoice is 13 1/2 x 11 inches. This invoice, including labels, costs 6.5 cents per page with 44 labels on each page.

The unusual features of this invoice and label include (1) blank adhesive labels to denote a break between aisles to serve as a guide to the selector and to improve accuracy in order assembly; (2) a "CR" symbol between the first two digits and the last three digits of the warehouse slot number to further remind the order selector that the item is in another aisle; (3) an asterisk beside the number of cases when more than one case is ordered, to remind the selector to obtain the additional cases and mark them with the suggested retail price; (4) the retail store number (555) on each label, to be used in checking the order at the store; (5) a slit on the label between quantity ordered and item code number for use as part of the warehouse procedures for scratch-off credit and forklift letdown (this procedure will be described later).

One label is printed for each item. When more than one case of the same item is ordered, the order selector marks the retail price on the additional cases with a grease pencil.

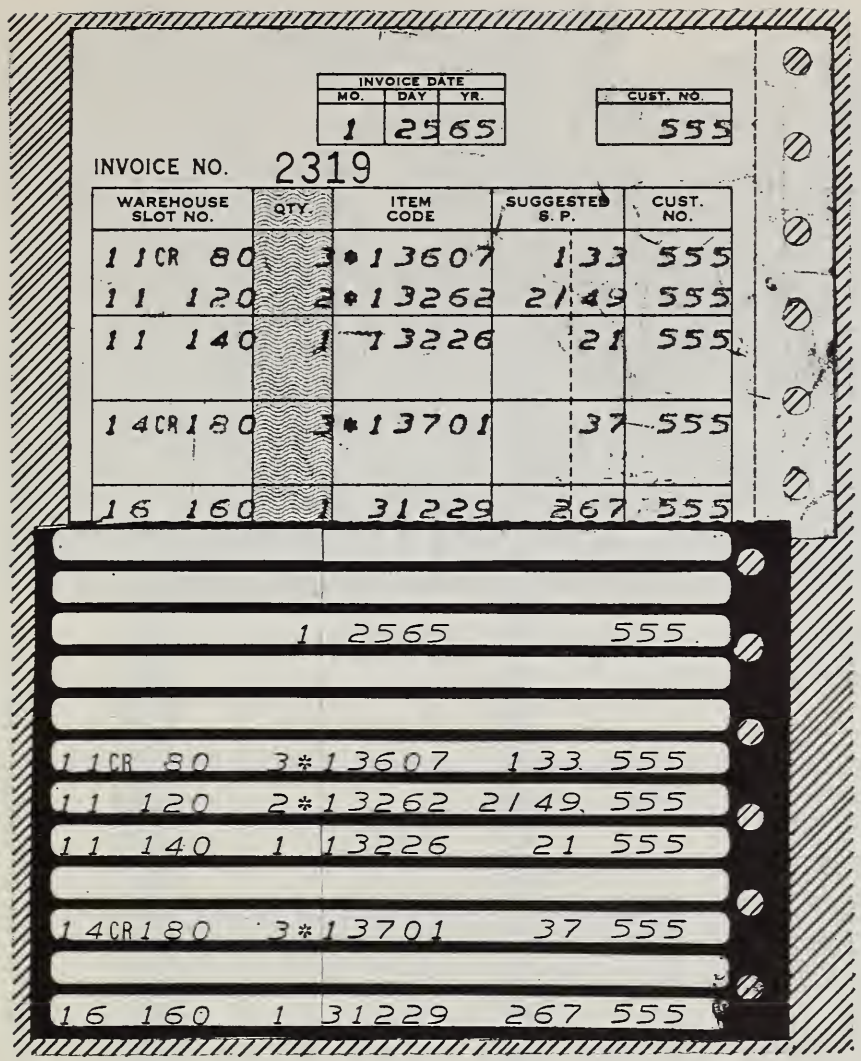

Figure 1.--Adhesive label superimposed on invoice. The invoice is at top and the label sheet at bottom. The label sheet is placed on top of the invoice when the order is prepared.

Combination Invoice and Adhesive Label Strip

Figure 2 shows a combined invoice and label printed simultaneously on the data processing machine. This label shows the warehouse slot number, the number of cases ordered, the item code number, the suggested retail price, and the retail store customer number. It does not provide the item description, which would simplify checking the merchandise. With this system only one label is prepared for each item, and when more than one case is ordered the additional cases must be price-marked with a grease pencil. Prices for this label were not obtained.

Labels Printed Separately From the Invoice

Figure 3 shows adhesive labels printed separately from the invoice. This system requires either an additional printer in the data processing department or printing of the labels either before or after the invoices are prepared. The wholesalers in this study used two IBM 402 machines: one a standby unit and the other a full-time unit. The wholesalers printed the labels separately on the standby unit from the same cards that were used to prepare the customer invoices.

The features of the label shown in figure 3 include (1) the background of the columns showing the warehouse slot number and the suggested retail price is a different color (shaded in fig. 3) than the rest of the label, to highlight the two factors considered important by the wholesaler; (2) the store number is printed so the store can check to see that it receives the proper merchandise; and (3) a separate label is printed for each case ordered.

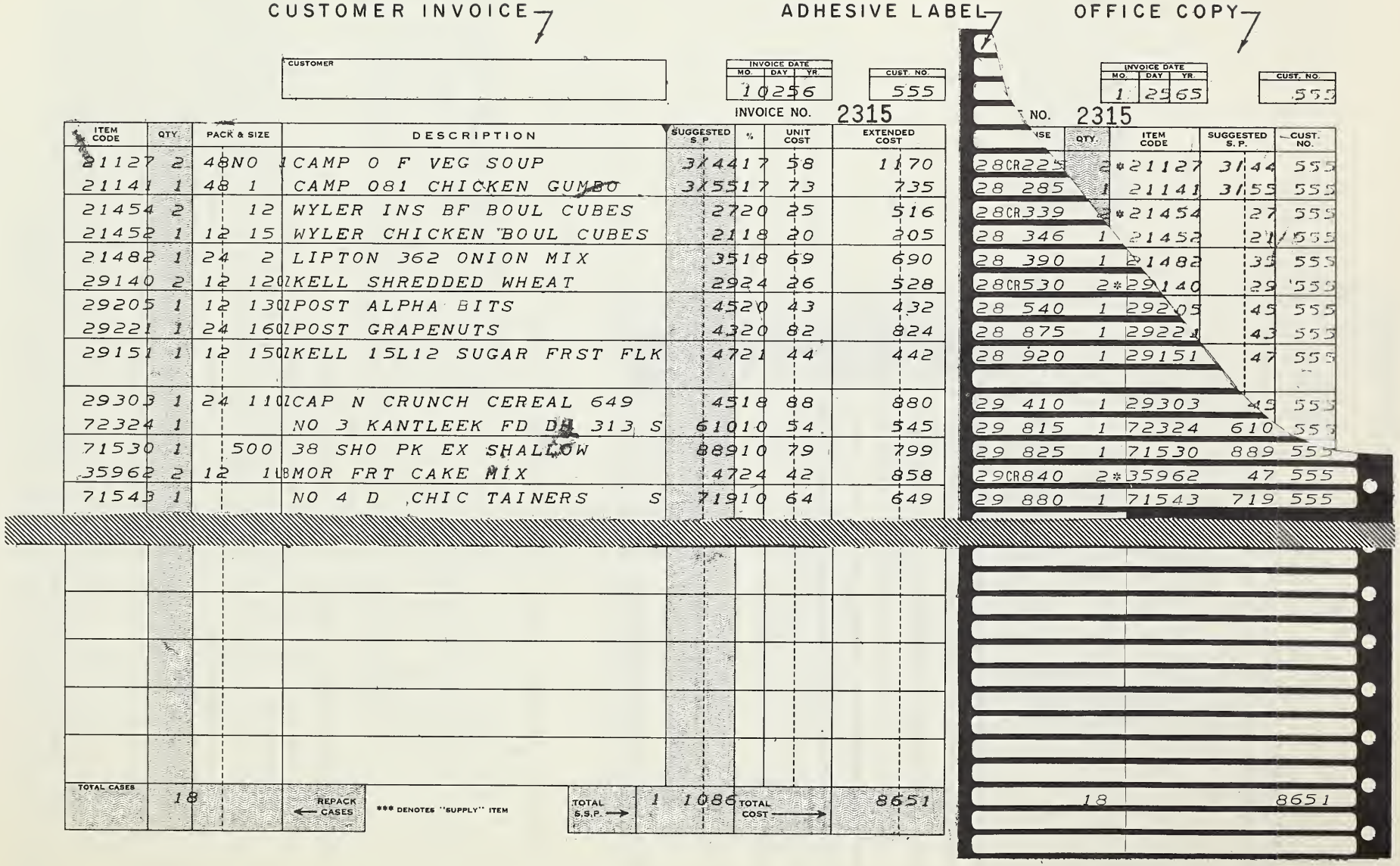

Figure 2.--A combined invoice and adhesive label strip.

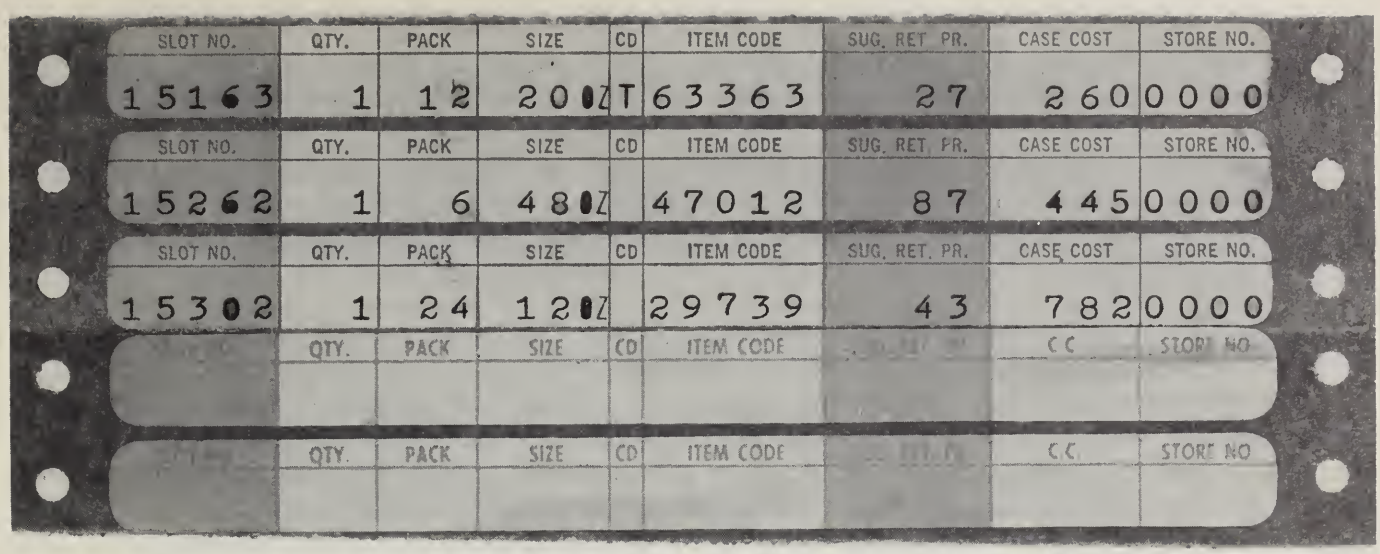

Figure 3.--Adhesive labels printed separately from the invoice on a glassine carrier strip.

The cost to the wholesaler for these labels in various quantities is as follows:

Quantity	Cost per 1,000 labels
700,000	$1.78
1,000,000	1.54
1,500,000	1.39

THE ADHESIVE LABEL IN THE WAREHOUSE

The major concern of warehouse operators about use of adhesive labels is the effect of labels on warehousing operations. This concern is in two areas of warehousing operations: productivity in selecting and checking orders and methods for handling warehouse scratch-offs and forklift letdowns.

Productivity in Selecting and Checking Orders

The conventional method of price-marking cases at the warehouse is to use a grease pencil to write the price on the case as the order is being assembled. When cases are price-marked by grease pencil, the assembled orders are checked for accuracy before they are loaded on trucks.

One of the chief savings with adhesive labels is elimination of the need to check outgoing merchandise for accuracy. When the adhesive label provides the item description, it is not necessary to check the merchandise at the warehouse because the description of the item ordered is on the case. If the description on the label does not match the description on the case, it will be evident to the store clerk when he obtains the item for price-marking and an adjustment on the item can easily be made with the warehouse on any merchandise incorrectly shipped. If a label is prepared for every case ordered, the order selector will have labels left over for any items that were not assembled; thus, warehouse checking is not needed with the adhesive label program.

As determined by time study, the labor required to place adhesive labels on cases is 0.033 man-minute per case; marking prices on cases with a grease pencil takes 0.025 man-minute per case, or 24 percent less labor. Savings in labor for checking, however, would more than compensate for the additional labor required to attach labels. Time studies have shown it requires 0.107 minute to check each case of outgoing merchandise when orders are assembled on pallets

and 0.0497 minute when they are assembled on 4-wheel handtrucks.[1] Thus the total for price-marking with a grease pencil and checking would be 0.132 man-minute per case when orders are assembled on pallets and 0.0747 man-minute per case when orders are assembled on 4-wheel handtrucks.

If the order selection rate averages 200 cases per man-hour without use of adhesive labels, it would average 180 cases per man-hour when labels are attached. Labels were usually placed on the side of the case during order assembly to reduce the time required to check the merchandise in the store.

Forklift Letdowns and Warehouse Scratch-Offs

The adhesive label invoice has resulted in cost savings and simplified procedures in processing forklift letdowns and warehouse scratch-offs. Forklift letdowns occur when stock is stored in pallet racks above the working slot or in a reserve storage area and the order selector must get a forklift operator to move the merchandise and put it into the working slot. When an item on the store invoice cannot be found in the working slot or in reserve storage, it must be scratched from the order at the warehouse.

There is an average loss of 7 1/2 minutes in order selector time for each item requiring a forklift letdown during selection. One wholesaler reported between 35 and 45 forklift letdowns during the selection shift. Use of the adhesive label and the system described in this section has reduced the number of letdowns during the selection process to 6 to 8 items. The total time saved was reported as 3.1 hours in the night selection shift or a total of 15.5 hours per week.

This firm achieved a reduction in order selector time for forklift letdowns by using adhesive labels with a slit between item and code number, as shown in figure 1.

With this procedure the order selector obtains the items listed on the invoice and attaches the label to each case. If the item is not in the slot, the selector does not stop, but leaves the label on the sheet and continues to assemble the balance of the order. The sheet with the label is left with the load and taken to the shipping dock. When the shipping clerk sees the invoice with a label attached, he knows that the selector has not assembled the item ordered and that he must obtain the item from reserve storage or scratch it from the invoice.

The shipping clerk detaches the left-hand portion of the label, which shows the warehouse slot number and number of cases ordered, and affixes it to a card. The item is then checked in the inventory control to determine whether it is in stock or not. If the item is in the inventory, it should be in surplus reserve or overhead reserve. The card is given to a forklift operator. The forklift operator replenishes the stock and brings the cases ordered to the loading dock where he takes the label off the card and puts it on the case. The shipping clerk then places the right side of the label on the case as he checks it to assure that the proper merchandise has been obtained and places the case with the assembled store order for shipment. If the item is not in stock or cannot be assembled, the label is taken to the warehouse office and a credit memo is written to give the store credit for nonshipment. In some warehouses, credit may be given to the store by showing the credit as a line of printing on the store's weekly statement of account.

The only extra time required with this method of obtaining stock that is not in the working slot is the time taken by the forklift operator to bring the missing cases to the dock. The forklift operator must return to the dock with the case (or cases), but this usually takes less time than having the order selector wait in the selection area for a letdown or return to the area later.

There are two basic methods used for correcting the invoice amount when warehouse scratch-offs occur. With the first method the warehouse controls the correction. The shipping clerk notes the scratch-offs, corrects the invoice total, recomputes the fee and makes any other necessary corrections. The advantage of this method is that the corrected invoice is forwarded

[1] Shaffer, P., Bouma, J., and Karitas, J. Handling Groceries From Warehouses to Retail Store Shelves. U.S. Dept. Agr., Mktg. Res. Rpt. 473, 47 pp., illus. 1961.

with the shipment. Disadvantages of this method include the following: (1) Warehouse computations may result in loss of inventory control; (2) the delivery truck departure may be delayed while invoices are being corrected; and (3) if invoice totals are summary punched in the data processing department, a separate control is necessary to correct scratch-offs.

With the second method, the data processing department controls the correction. Invoice totals are not changed with this method and a notation is stamped on the invoice "Credit to follow on scratch-off." After the delivery is made, the invoice is forwarded to the billing department for preparation of a credit memorandum. This is the recommended method of handling warehouse scratch-offs. It has these advantages: (1) Inventory control on warehouse scratch-offs is maintained; (2) the origination of a credit memo serves as a method of analyzing the extent of scratch-offs; and (3) delivery trucks are not delayed because orders are processed as they are filled. Figure 4 shows a representative credit memorandum.

THE ADHESIVE LABEL IN THE RETAIL STORE

A continual aim of supermarket operations is to speed the movement of groceries from the warehouse onto the grocery shelves. Simplifying procedures in receiving, checking, price-marking, and stocking while keeping backroom stocks to a minimum is an essential aim of all retail operations. When adhesive labels are applied to cases at the warehouse, it eliminates the need to price-mark cases at the retail store, simplifies the checking of orders at the retail store, and also improves the accuracy of price-marking individual items.

Labor and Time Saved in Price-Marking and Checking Orders

Orders are usually checked and the cases are price-marked in the backroom of the retail store after they are unloaded from the delivery truck. The standard time for the most efficient method of checking and price-marking cases in the backroom of the store totals 0.1455 man-minute per case.[2] In this method, one man locates the items on the invoice, makes a notation on the invoice that the item has been received, ascertains the correct price, and writes the price on the identification end of the case.

At some retail stores, merchandise is checked against the invoice as the order is received, and the retail selling price is placed on the case at that time. One member of the crew checks each item from the invoice as the case moves down the conveyor from the delivery truck and another member places the retail price on the case. This method of checking and price-marking requires 0.2296 man-minute per case and causes delays for the man placing cases on the conveyor in the truck and for other members of the crew who are stacking cases in the storeroom. It is necessary to assign two men to the price-marking and checking operation to achieve a relatively balanced unloading crew. In comparison, only 0.033 man-minute per case is required to place the adhesive label on the case during order assembly in the warehouse, a saving of 0.1966 man-minute per case over this method.

When cases are price-marked after the receiving operation, a method of checking used is the case count. As the truck is unloaded, the cases are counted, and the total number of cases received is checked against the total number of cases on the invoice. The case-count is faster than checking each case on the invoice but is unsatisfactory for the following reasons: (1) If the case count does not match the invoice count, a commodity check is required, and (2) a case count does not disclose errors within the order--for example, wrong item shipped or wrong size.

When adhesive labels are used, the case-count method of checking merchandise at the retail store can be used satisfactorily because errors within the order will be found when the items in the case are marked with the retail price. The item description on the label should be the same as the description on the case.

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[2] Harwell, E. M., and Shaffer, P. F. Some Improved Methods of Handling Groceries in Self Service Retail Food Stores. U.S. Dept. Agr. Mktg. Res. Rpt. 7, 118 pp., illus. 1952.

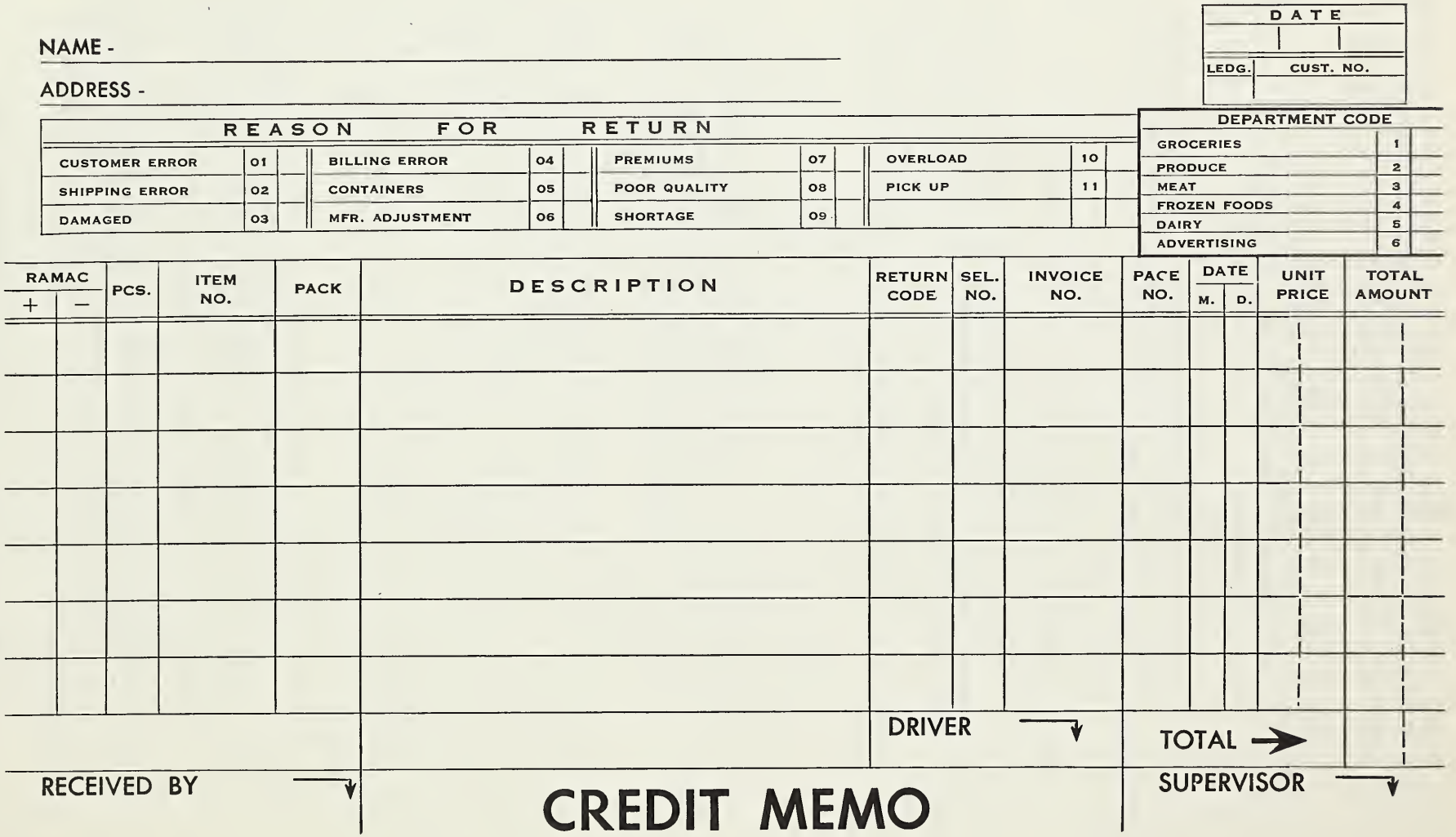

Figure 4.--A warehouse credit memo to retailers for crediting shortages and other items.

Accuracy in Price-Marking Individual Items

The use of the adhesive label improves accuracy of price-marking individual items and eliminates the need for store clerks to look up retail prices. In many retail stores, an experienced clerk, or the owner in a small store, may do much of the pricing from memory. Looking up the unit retail price of the item occurs 43.7 times for each 100 cases.[3]

With between 6,000 and 7,000 items stocked in the average supermarket today, price changes may easily be overlooked when items are priced from memory. Studies of price-marking accuracy in stores show that 1 to 2 percent of the items are incorrectly priced.

Affixing an adhesive label on the case at the warehouse that shows the retail price eliminates the time needed to search for the correct price while the merchandise is being price-marked. The adhesive label also is more accurate since the store personnel can compare the item description on the label with the description on the case to make sure that the two agree. Legibility of the price-mark is also better with the adhesive label.

Some retailers do not use the wholesaler's suggested retail prices on all grocery items. One retailer said he has a serious problem in keeping prices up-to-date on items that are priced differently from the wholesaler's suggested retail price. He said adhesive labels permit him not only to keep prices current on those items on which he follows the suggested retail price but enable him to establish a simplified procedure for pricing the exceptions.

ADVANTAGES OF ADHESIVE LABELS AND COMPARATIVE COST WITH PRICE-MARKING CASES BY HAND

Table 1 shows a comparison of the cost elements affected by price-marking grocery cases (1) with adhesive labels at the warehouse, (2) with a grease pencil at the warehouse, and (3) with a grease pencil at the retail store. Because the information on the adhesive label should match the item description on the case and because the procedure for using the labels assures the assembly of the number of cases ordered, no formal checking of the merchandise is needed at

TABLE 1.--Costs associated with pricing cases with adhesive labels and with grease pencil at the warehouse and the retail store

Method of price-marking and labor elements	Cost per case		
	Labor	Materials	Total
	Cents	Cents	Cents
Adhesive label at warehouse, attach label	0.165	0.154	0.319
Grease pencil at warehouse:			
Mark case	0.125	--	0.125
Check order	0.248	--	0.248
Total	0.373	--	0.373
Grease pencil at retail store:			
Check order at warehouse	0.248	--	0.248
Mark and check cases at store	0.582	--	0.582
Total	0.830	--	0.830

[3] See footnote 2.

the warehouse or retail store and none is provided in table 1. Any incorrectly assembled merchandise will be found by the retail store clerk when he looks at the label before price-marking the items in the case. A provision is made in table 1 for checking the accuracy of order assembly in the warehouse when merchandise is price-marked by grease pencil at the warehouse during order assembly, but no checking is provided for in the retail store. When cases are price-marked at the retail store, time is provided for warehouse checking as well as checking at the retail store as the merchandise is being price-marked. The labor costs in table 1 are based on the best known work methods and an hourly wage of $3 for warehouse employees and $2.40 for retail store employees.

As shown in table 1, the cost of price-marking cases with adhesive labels is more than 0.05 cent per case less than marking cases with a grease pencil in the warehouse and 0.51 cent less than marking cases at the retail store. Costs are not provided for additional computer or accounting machine time, because in the companies studied the labels were printed with existing equipment and no additional machine rental costs were incurred.

In addition to the labor cost savings, advantages with adhesive labels include better legibility and accuracy of suggested retail prices; better retail store inventory control when adhesive labels show the delivery date; improved control between the warehouse and retail store on incorrectly assembled merchandise; and a provision for keeping the merchandise for a particular store together on the warehouse loading dock when store numbers are listed on the label. If the invoice is run separately from the adhesive labels, the wholesaler can be more helpful to the retailer by listing items on the invoice by commodity groups rather than by warehouse location. If an error is discovered at the retail store the evidence is shown on the label. The label cannot be transferred from one case to another without tearing the cardboard on the case.

RECOMMENDED INVOICE AND LABEL

The development of the one-part or single-copy invoice made it possible to use the adhesive label as an overlay. The one-part invoice consists of a single sheet of paper with a perforated side strip. The left side of the invoice contains the information that is prepared for the customer and the right side the information that is used by the wholesaler. If a label were printed with multiple-copy invoices, the packet would be too bulky for data processing equipment to handle economically. A description of the one-part invoice together with savings accomplished with it has been published.[4] Figure 5 shows a one-part invoice with adhesive labels printed as an overlay on the part of the invoice sent to the retailer. The invoice is the type recommended. It is suggested that the invoice contain the additional information (numbered 1 through 4) shown in figure 6.

The symbol CR, ① in figure 6, alerts the order selector that he must go to the next aisle to select the item. In this example, the slot number is five digits--the first two digits denote the aisle in which the product is stored, and the last three digits the slot in which the product is stored. The asterisk ② denotes that more than one is to be shipped. The asterisk has a two-fold purpose: In the warehouse, to alert the order selector that more than one case is to be shipped, and in the retail store to notify the load checker and stock clerks that a multiple quantity of the item has been shipped. The symbol (±), ③ in figure 6, indicates that there has been a change in the suggested retail price on the item during the week the product is shipped. The plus sign means a retail price advance and a minus sign a price reduction. The date ④ the product is shipped to the store helps store personnel to place the oldest stock on the shelf or to achieve proper stock rotation. Also, if a store has a claim or if it is necessary to check the invoice for any reason, reference to the delivery date on the label helps in finding the invoice at the warehouse.

[4] Bartz, Daniel J., and Bouma, John C. Improved Methods Among Wholesale Food Distributors for Inventory Control, Sales Accounting and Shipment of Merchandise. U.S. Dept. Agr. Mktg. Res. Rpt. 271, 71 pp., illus. 1958.

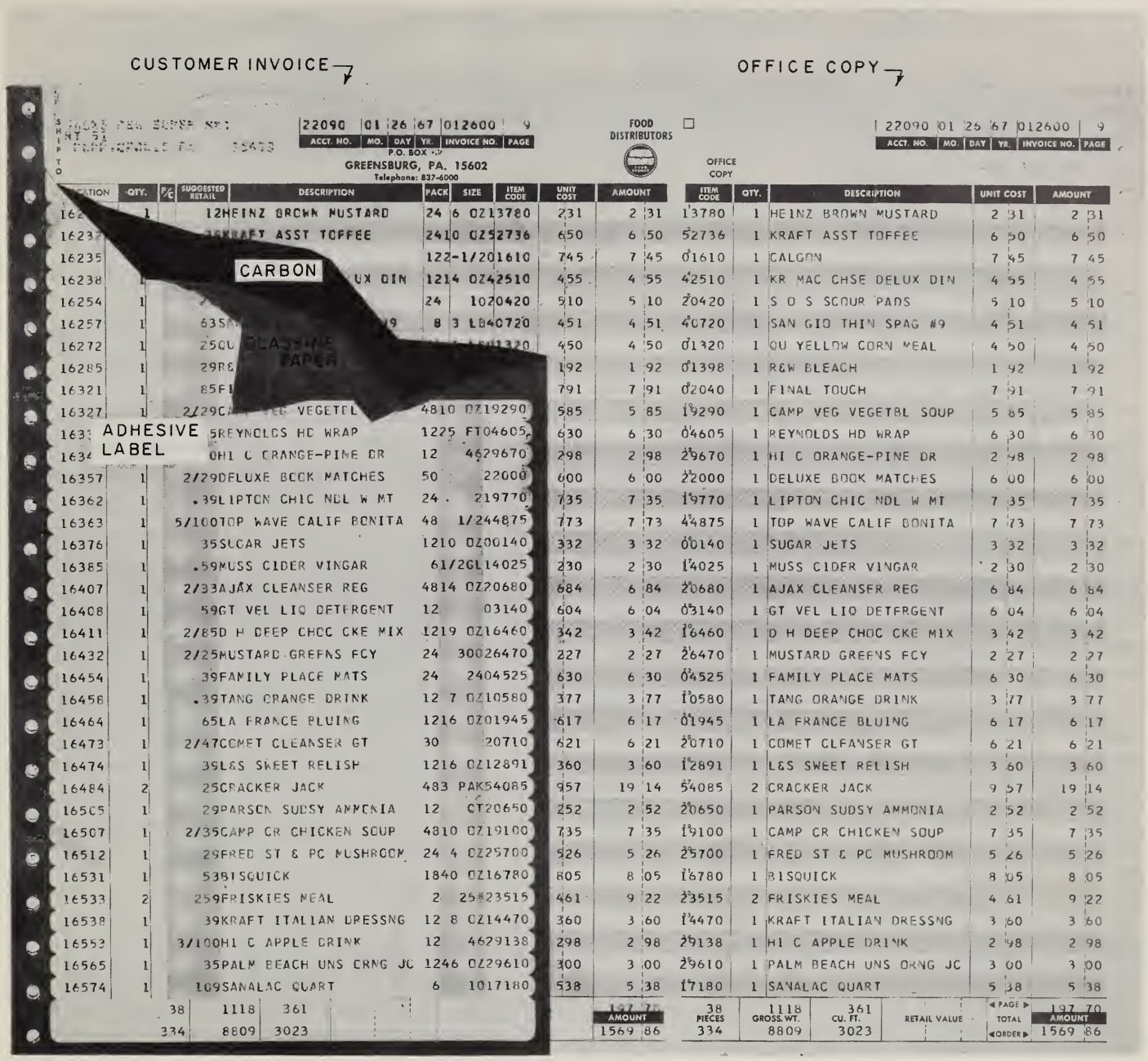

Figure 5.--One-part invoice with superimposed adhesive labels.

SLOT NO.	QUAN.	ITEM DESCRIPTION	SIZE	PACK	ITEM CODE	SRP	DELIVERY DATE	STORE NO.
55 CR 100	*2					.33±	2/14	
①	②					③	④	

Figure 6.--Suggested label for use with a one-part invoice.

DATA PROCESSING WITH ADHESIVE LABELS

The companies participating in this study were using data processing equipment of various types ranging from the unit file record system, popularly termed tub-file system, to high speed computers. Since the flow of paperwork varies between the two systems, separate discussions will follow for each system.

Paperwork Flow With the Unit File Record System

The conventional data processing equipment used with the unit file record system has been used successfully in preparing the single-copy invoice and adhesive labels. A description of conventional data processing equipment used by wholesale food distributors has been published.[5] No special features or attachments to print the invoices or the labels are necessary for the standard equipment available from the manufacturers of data processing machines.

One change in processing the invoice is required. The retailer must be charged for the labels and attachment of them and this charge must be added to the invoice. The charge can be handled by either of two methods. In the first method, the charge is added to the selling price per case. For example, if a case is sold for $5.40 by a wholesaler to a retail customer and a charge of 1 cent per case is to be made for labeling, $5.41 would be punched into the cost to the customer column on the data processing card. In figure 7, the amount, $5.41, would be punched into columns 69 to 72; the machine would then list the item and charge the customer the extra 1 cent.

The second method is to leave the unit cost at $5.40. The machine may then be programed to count the number of cases, as in any conventional billing program, and to print a grand total on the last page. The cost of 1 cent a case is then extended and added to the total of the invoice.

The flow of paperwork in the preparation of customer invoices is shown in figure 8 and includes the following steps: (1) Order is received from the customer; (2) customer name and address cards are pulled from the tub-files; (3) commodity cards are pulled for each item ordered; (4) commodity cards are sorted into warehouse slot sequence; and (5) the invoice and adhesive labels are prepared on the accounting machine. The labels and invoice are then sent to the warehouse for order assembly and delivery, and the office copy of the invoice is retained by the company.

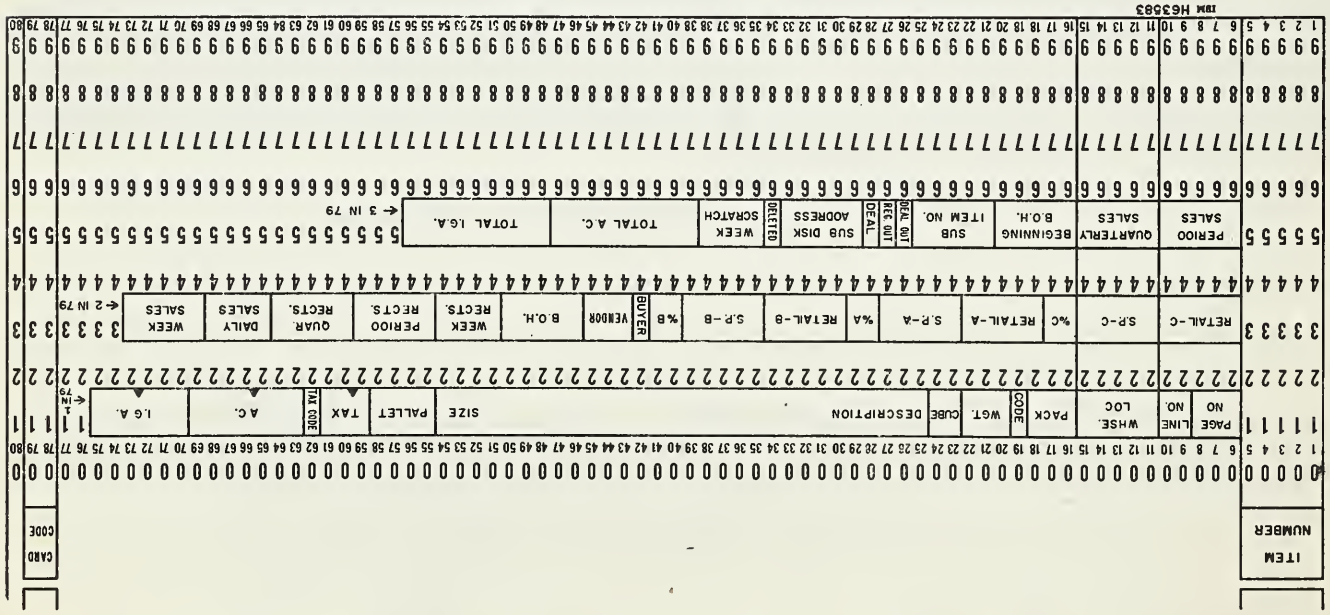

Figure 7.--Data processing card for machine preparation of invoices to include a charge for warehouse pricing.

[5] See footnote 4. Equipment is described on pp. 10-12 of Mktg. Res. Rpt. 271.

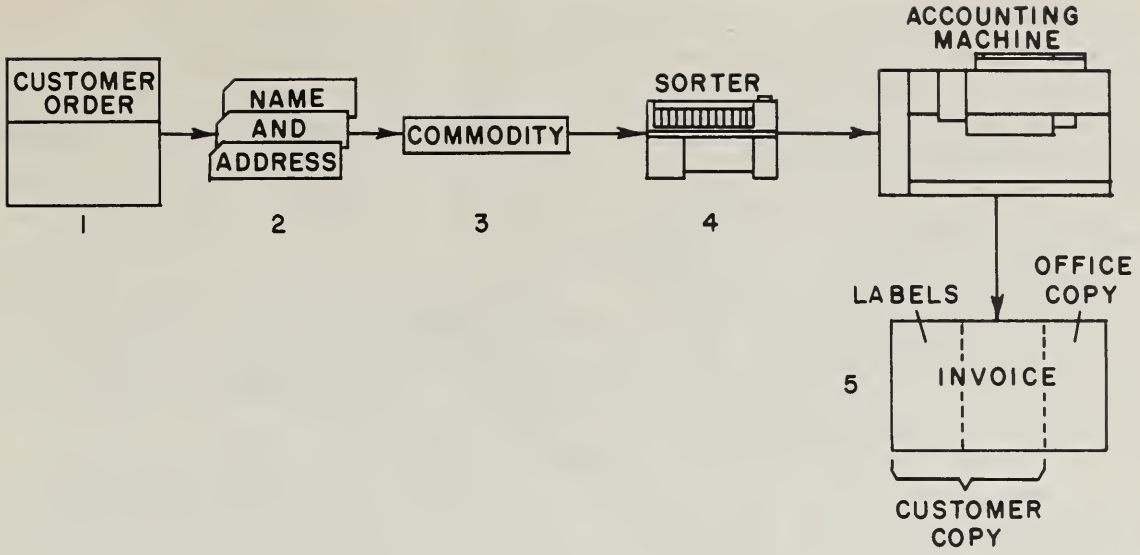

Figure 8.--Paperwork flow for preparation of customer orders on tabulating machines.

If the wholesaler desires to list the invoice in order book sequence, the invoice would be printed after step 3, the cards would then be sorted into warehouse slot sequence, and the labels would then be printed. This procedure involves the added cost of running the cards through the accounting machine a second time.

If labels are printed at the same time as the invoice, the paper will have to be changed in the invoicing process because labels are not prepared for items such as repack items, cigarettes, and fresh meats.

The following steps are involved in office processing invoices and adhesive labels at the same time:

(1) The data processing supervisor receives the orders and obtains 4 sets of name cards from the tub file for each order.

(2) He places the orders with their name cards on a panel on top of the tub files.

(3) The card puller takes the orders from the panel with the cards, goes to the first tub, and travels past the tubs picking cards for the order. He pulls one card for each case ordered. Cards for cents-off merchandise are stored in the tub files behind the cards for the regular items. If a customer orders the item, the cents-off cards are pulled until the deal stock is depleted.

(4) After the card puller has picked the entire order, he places the stack of cards at the checking desk.

(5) Another person checks the cards against the order.

(6) When the order is entirely checked and correctly assembled, it is taken to the card sorter.

(7) The machine operator processes the cards through the sorter five times into warehouse slot sequence and then separates the cards into two stacks, one for dry groceries and the other for cigarettes and repacks, which do not require an adhesive label.

(8) When sufficient orders are sorted, they are taken into the accounting machine.

(9) The repack and cigarette orders are processed through the accounting machine and printed on invoices without labels. With each of these orders, a set of cards is processed for printing a delivery receipt.

(10) When all the orders for repacks and cigarettes have been printed, the operator stops the accounting machine, then takes the regular invoices off the machine and attaches invoices with adhesive strips.

(11) The grocery orders are then printed on the accounting machine.

(12) When all the orders have been printed, the invoices are assembled and taken to the dispatching office in the warehouse.

When the strips are printed separately, extra machine time is required to process the cards from which the labels are prepared.

Paperwork Flow With Use of Computers

Some wholesalers are using computers to prepare the invoice and label. The computer is programed to print the invoice and label at speeds ranging from 600 to 1,000 lines of printing per minute. It also adds the charge for adhesive labels to the cost to the retailer for each case as the item is printed or lists a separate charge at the end of the invoice. Figure 9 shows the paperwork flow for processing customer orders with a computer.

When the wholesaler uses computers to prepare invoices, there are two methods of ordering that may be used by retailers. In one method the retailer uses "mark-sense" cards (fig. 10). He orders items by marking the cards with a special pencil and mails the cards to the wholesaler. A machine "reads" the cards by sensing the pencil marks and punching holes in the card wherever a mark is made. The punched cards are fed into the computer for processing and preparation of the invoices and labels.

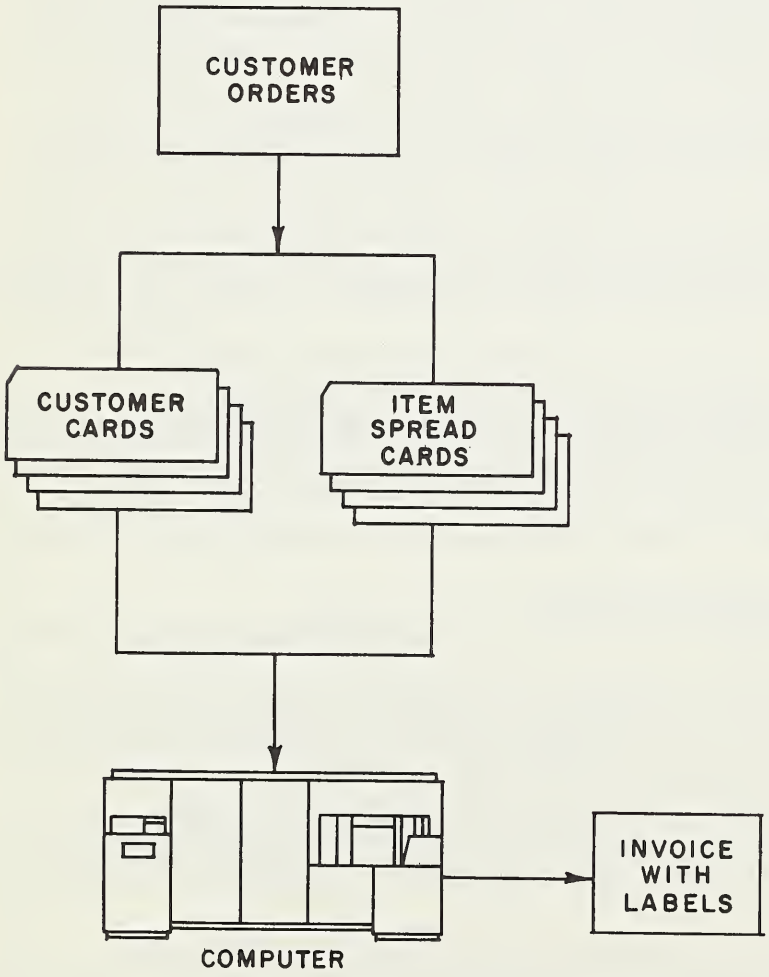

Figure 9.--Paperwork flow in processing customer orders with a computer.

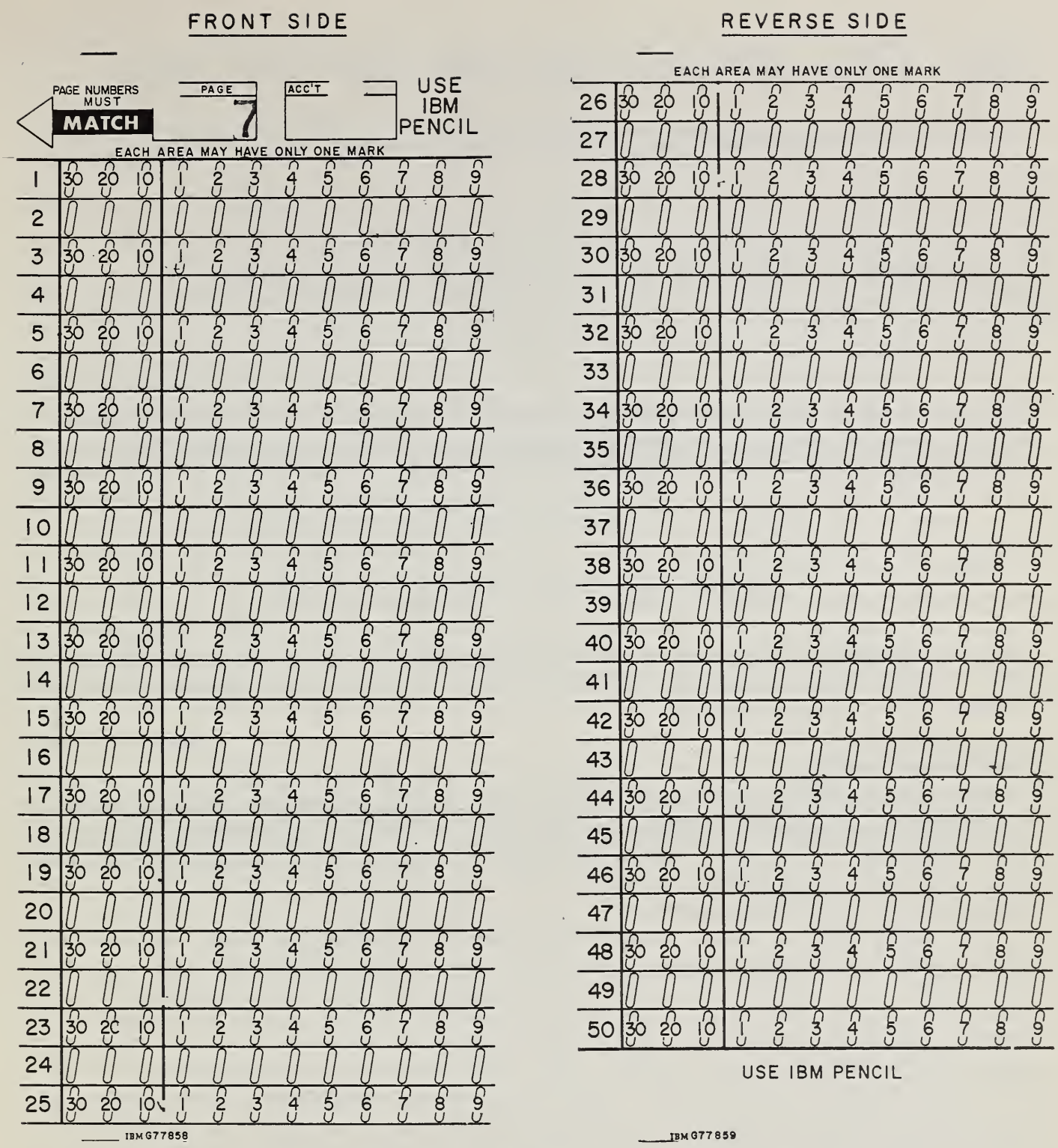

Figure 10.--Mark-sense order cards used for computer processing.

The second method commonly used by retailers in ordering merchandise from wholesalers is to send orders in books or tear strips. Key punch operators then punch the orders into a spread card (fig. 11). The cards are then processed by the computer and the invoices and labels printed.

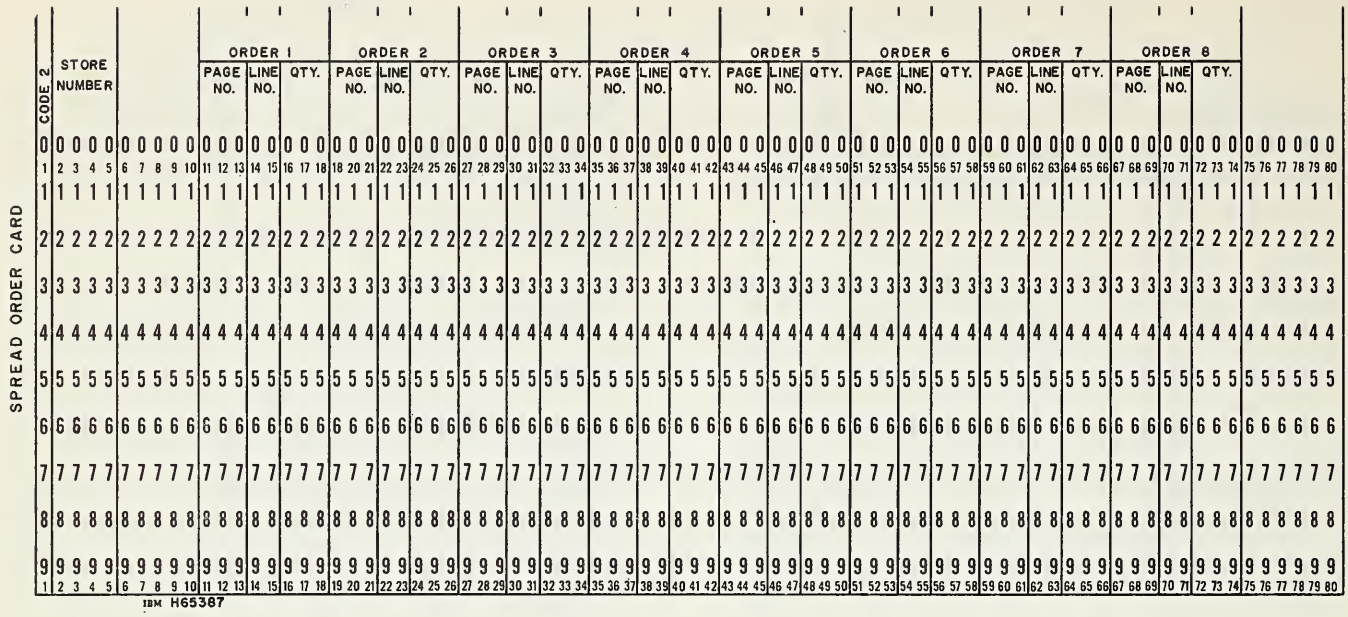

Figure 11.--A spread card showing page, line, and quantity for keypunch input into computers.

OTHER USES OF ADHESIVE LABELS

The development of the adhesive label invoice for retail pricing has led to other uses of the label in retail food stores and warehouses. Some of the other uses of adhesive labels are described in the following sections.

Identifying Loads

A byproduct of the invoice-label case-marking method is that labels may also be printed as part of each invoice page to identify the store and give special shipping instructions, the total cases, and weight of the load. These labels help the shipping clerk to identify each part of the store order as it is assembled and enable him to load the delivery trucks in proper customer sequence and to avoid mixing orders.

Two labels may be used, a header strip label and a bottom strip label. The header strip label is printed at the same time as the top of the invoice page. The label will show store name and address, store number, page and invoice number, and date. A label is prepared for each invoice page and is attached to a case on each warehouse selector truck or pallet load of merchandise assembled. The bottom strip label is printed at the same time as the bottom of the invoice by the data processing printer. This label may be used to check the merchandise. It shows total number of cases, gross weight, and cubic feet displacement. Other incidental information may also be printed on the labels, such as total cost, supplies, and excise tax. The bottom strip for the last page gives totals for the entire order. A bottom strip may be prepared for each invoice page and attached to the last case selected on each page to help identify the cartload or pallet load of merchandise for truck loading.

Shelf Stock Ordering

One group of 12 stores has adhesive labels printed every 4 weeks for use by its stores. These labels are fastened on the shelf in the position where the item is stocked. The label provides a complete description of the item, including size and pack, the retail price, and the item code number.

The stock order clerks refer to the labels on the shelves when writing the store order. The item code number on the label makes it easier for the stock clerk to locate the item in the order book and ensures greater accuracy in ordering.

In future plans for these adhesive labels, store management contemplates printing the recommended shelf position, location, and number of facings assigned to the product.

Wholesaler Mailings

A number of wholesalers print adhesive labels with the complete addresses of their retail customers. These labels are printed on data processing machines and are used for mailings, such as the weekly merchandising bulletin. Typing customers' names and addresses is thus eliminated.

Warehouse Identification

One wholesaler fastens an adhesive label on the warehouse racks next to the number of the slot in which the item is stored. The label has the description of the item as it appears in the order book and the invoice. The label on the rack serves as a check for the selector of the item assigned to the rack. It also helps the selector and the forklift operator to know which item belongs in the rack, for replenishment and letdown purposes.

Another wholesaler uses the adhesive label on the warehouse racks to control reserve stocks. Whenever a forklift operator places a pallet load in overhead reserve, he writes the reserve rack slot number and the number of pallet loads in the reserve slot on the label. When the working slot is empty or needs replenishment, the label shows whether the item is in reserve and its reserve location. The forklift operator then fills the working slot and changes the label to show that the stock in reserve has been taken to the working slot.

Other Products

Several wholesalers are using adhesive labels on frozen foods, dairy, and warehouse meat items (except fresh meats). Labels for these products are more expensive because a different type of adhesive is needed to overcome temperature and humidity conditions for these products.

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